

Tayyab Zafar

Assistant Professor

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About

Dr. Tayyab Zafar is working as Assistant Professor in the College of Electrical & Mechanical Engineering. Dr. Tayyab Zafar has a PhD in Reliability Based Design Optimization. Dr. Tayyab Zafar has published 23 research articles & conference papers having a citation count of 266, carried out 1 projects and filed 0 intellectual property.

Qualifications

PhD in Reliability Based Design Optimization University of Electronic Science and Technology of China , China	2017 - 2020
MS in Intelligent Systems NUST, Islamabad , Pakistan	2013 - 2015
BE in NA NUST, Islamabad , Pakistan	2008 - 2012

Experience

Assistant Professor College of Electrical & Mechanical Engineering	2025- Present
Assistant Professor College of Electrical & Mechanical Engineering	2021 - 2020
Assistant Professor College of Electrical & Mechanical Engineering	2020 - 2020
Assistant Professor College of Electrical & Mechanical Engineering	2020 - 2021
Lecturer College of Electrical & Mechanical Engineering	2015 - 2021

Awards

Research Projects

National Projects	
Multirobot automation system for manufacturing (Composite layup manufacturing) Funding Agency: NUST Amount: PKR 22,000,000.00 Status: Completed	2023
International Projects	

Research Articles

Quantifying uncertainty in robotics trajectories: A time-dependent approach using polynomial chaos expansion Keenjhar Ayoob Tayyab Zafar Amir Hamza Zhonglai Wang AIP Advances , Volume:15, Issue:6, Article Number 065107 Impact Factor: N/A Quartile: 4 DOI: 10.1063/5.0252807	2025
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A Hybrid Approach for Noise Reduction in Acoustic Signal of Machining Process Using Neural Networks and ARMA Model <i>Tayyab Zafar Khurram Kamal Ghulam Hussain Mohammed Alkahtani Fahad M. Alqahtani Mohamed K. Aboudaif Senthana Mathavan</i> <i>Sensors</i> , Volume 21(23), Article Number 8023 Impact Factor: 3.576 Quartile: 1 Citations: 8 DOI: 10.3390/s21238023	2021
Failure classification in natural gas pipe-lines using artificial intelligence: A case study <i>Abdul Manan Khurram Kamal Tahir Abdul Hussain Ratlamwala Muhammad Fahad Sheikh Abdul Ghani Abro Tayyab Zafar</i> <i>Energy Reports</i> , Volume 7, Pages 7640-7647 Impact Factor: 6.870 Quartile: 1 Citations: 20 DOI: https://doi.org/10.1016/j.egy.2021.10.093	2021
An efficient Kriging based method for time-dependent reliability based robust design optimization via evolutionary algorithm <i>Tayyab Zafar Yanwei Zhang Zhonglai Wang</i> <i>Computer Methods in Applied Mechanics and Engineering</i> , Volume 372, Article Number 113386 Impact Factor: 6.756 Quartile: 1 Citations: 70 DOI: 10.1016/j.cma.2020.113386	2020
An efficient method for time-dependent reliability prediction using domain adaptation <i>Tayyab Zafar Zhonglai Wang</i> <i>Structural and Multidisciplinary Optimization</i> , Pages 1-18 Impact Factor: 4.542 Quartile: 1 Citations: 6 DOI: 10.1007/s00158-020-02707-z	2020
Time-dependent reliability prediction using transfer learning <i>Tayyab Zafar Zhonglai Wang</i> <i>Structural and Multidisciplinary Optimization</i> , Volume 62, Pages 147–158 Impact Factor: 4.542 Quartile: 1 Citations: 17 DOI: 10.1007/s00158-019-02475-5	2020
A time-dependent probabilistic fatigue analysis method considering stochastic loadings and strength degradation <i>Su Chunbo Yu Shui Zhonglai Wang Tayyab Zafar</i> <i>Advances in Mechanical Engineering</i> , Volume 10, Issue 7, Pages 1-9 Impact Factor: 1.024 Quartile: 4 Citations: 6 DOI: 10.1177/1687814018785560	2018
Performance assessment of Kinect as a sensor for pothole imaging and metrology <i>Khurram Kamal Senthana Mathavan Tayyab Zafar Imran Moazzam Ahsan Ali S. Usman Ahmad Mujib Rahman</i> <i>International Journal of Pavement Engineering</i> , Volume 19, Issue 7, Pages 565-576 Impact Factor: 2.298 Quartile: 1 Citations: 34 DOI: DOI:10.1080/10298436.2016.1187730	2018
Wood defects classification using laws texture energy measures and supervised learning approach <i>Khurram Kamal Rizwan Qayyum Senthana Mathavan Tayyab Zafar</i> <i>Advanced Engineering Informatics</i> , Volume 34, Pages 125-135 Impact Factor: 3.358 Quartile: 1 Citations: 89 DOI: https://doi.org/10.1016/j.aei.2017.09.007	2017
A neural network based approach for background noise reduction in airborne acoustic emission of a machining process <i>Tayyab Zafar Khurram Kamal Z. Sheikh S. Mathavan U. Ali H. Hashmi</i> <i>Journal of Mechanical Science and Technology</i> , Volume 31 (7), Pages 3171-3182 Impact Factor: 1.194 Quartile: 3 Citations: 14 DOI: 10.1007/s12206-017-0606-2	2017

Conference Proceedings

Reliability analysis of CRAC system of a modern Data centre via Kriging algorithm <i>Ahsan Javed Tayyab Zafar Zhonglai Wang</i> <i>2nd International Conference on Modern Technologies in Mechanical and Materials Engineering (MTME-2024)</i> , res.country(177,)	2024
Citations: N/A DOI: 10.1051/mateconf/202439801007	

Dense Vehicular Ad hoc Network UAV Assisted Cooperative Routing Scheme <i>Adnan Shujah Tayyab Zafar Sadia Ayub Sheikh Muhammad Muneeb Hamid Rasheed Aarsal Bilal</i> 2023 International Conference on Robotics and Automation in Industry (ICRAI), res.country(177,) Citations: N/A DOI: 10.1109/ICRAI57502.2023.10089603	2023
Prediction of fatigue crack growth rate in aircraft aluminum alloys using radial basis function neural network. <i>Hassaan Bin Younis Muhammad Fahad Sheikh Amir Hamza Tayyab Zafar Khurram Kamal</i> 2018 10th International Conference on Advanced Computational Intelligence (ICACI), res.country(48,) Citations: N/A DOI: 10.1109/ICACI.2018.8377568	2018
An Inspection Approach for Casting Defects Detection Using Image Segmentation <i>Faisal Riaz Rizwan Qayyum Khurram Kamal Tayyab Zafar</i> International Conference on Mechanical, System and Control Engineering, res.country(190,) Citations: N/A DOI: 10.1109/ICMSC.2017.7959451	2017
Wood Defects Classification using GLCM Based Features and PSO Trained Neural Network <i>R. Qayyum Khurram Kamal Tayyab Zafar S. Mathavan</i> 22nd IEEE International Conference on Automation and Computing, res.country(231,) Citations: N/A DOI: 10.1109/ICoAC.2016.7604931	2016
Control of a Ball-Bot using a PSO Trained neural network <i>M. Shaheer H. Hashmi S. Khan M. Atif Z. Shabbir A. Ali Khurram Kamal Tayyab Zafar A. Awan</i> 2nd International Conference on Control, Automation and Robotics, res.country(94,) Citations: N/A DOI: 10.1109/ICCAR.2016.7486692	2016
Stabilization of 3D pavement images for pothole metrology using the Kalman filter <i>Abdullah Rasheed Khurram Kamal Tayyab Zafar Senthana Mathavan Mujib Rahman</i> 18th IEEE International Conference on Intelligent Transportation Systems, res.country(68,) Citations: N/A DOI: 10.1109/ITSC.2015.429	2015
Tool Health Monitoring for Wood Milling Process using Airborne Acoustic Emission <i>Tayyab Zafar Khurram Kamal Z. Sheikh S. Mathavan A. Jehanghir U. Ali</i> 11th Annual IEEE International Conference on Automation Science and Engineering, res.country(196,) Citations: N/A DOI: 10.1109/CoASE.2015.7294315	2015
Stabilization of an Aerial Robot for Indoor Environments using a Vision-based Approach <i>Akash Kumar Khurram Kamal Tayyab Zafar M. Abbas Kararvi Hassaan Afzal Asad Naseer Senthana Mathavan</i> 7th IEEE International Conference on Fluid Power and Mechatronics, res.country(48,) Citations: N/A DOI: 10.1109/FPM.2015.7337230	2015
A Bio Inspired UAV Model based on Corvus Splendens <i>A. Jameel S. Khalid S.Khalid Khurram Kamal Anas Aqeel S. Mathavan T. Awais Tayyab Zafar</i> 7th IEEE International Conference on Fluid Power and Mechatronics, res.country(48,) Citations: N/A DOI: 10.1109/FPM.2015.7337223	2015
Tool Health Monitoring using Airborne Acoustic Emission and a PSO-optimized Neural Network <i>Tayyab Zafar Khurram Kamal R Kumar Z Sheikh S Mathavan U. Ali</i> 2nd IEEE International Conference on Cybernetics, res.country(178,) Citations: N/A DOI: 10.1109/CYBConf.2015.7175945	2015

Reliability-Based Design Optimization Using Transfer Learning

2021

Tayyab Zafar Zhonglai Wang Shui Yu

In: *Book on Reliability-Based Analysis and Design of Structures and Infrastructure*, 1st Edition, Chapter 30, Pages 479-493

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